INTERNAL
CORRESPONDENCE

UNION CARBIDE CORPORATION TECHNICAL CENTER
P.O. BOX 8361, SOUTH CHARLESTON, WV 25303

To (Name) F. E. Dailey, 380
Division
Location
Area

Date June 14, 1984
Organization RESEARCH AND DEVELOPMENT
Area E & TS
Subject RCRA Related Support to Sistersville EP Department

Copy to A. H. Cheely, 380
R. A. Conway, 511/770 (2)
Ed Doerflein, 380
Bob Newberger, 380
W. J. Street, 380
W. E. Whitehurst, 511/770

Dear Fred:

I have summarized in the attachment to this letter the discussions I had at your request with Wil Street (delisting of incinerator), Ed Doerflein (ground water monitoring and GWQAP's), and Bob Newberger (EP North-40 investigation) during my June 7 visit to the Sistersville plant.

While low levels of Hazardous Constituents (HC's) were seen in the incinerator streams and kiln ash, I do not expect that to pose a major problem in your delisting efforts; reasons are explained in the attachment. Further, I have discussed herein the analytical data (HC's) of some of the groundwater monitoring wells in conjunction with the evaluation of the available RCRA monitoring data (up to first semi-annual 1983) using appropriate statistical methods. Based on that discussion, I think it can be shown that the facilities are not creating a significant groundwater contamination problem and therefore a detailed GWQAP may not be necessary for the facilities. I have suggested to Ed that we meet in the near future to develop such an argument.

I have estimated the R&D cost of conducting the proposed site investigation of the EP-North-40 area to be approximately $8500. The use of back-hoe has been suggested as an alternative to drilling (coring) with our "mighty-might."

Call me if you have any questions or need additional assistance.

Very truly yours,

S. I. Shah (2)

SIS:tlj

Enclosure

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Incinerator Delisting:

The analytical data for the requested Hazardous Constituent (HC) generated by us to support the ongoing efforts of delisting the Incinerator were discussed with Wil Street. HC's, methyl chloride, chlorobenzene, toluene, and acrylonitrile, were detected in the samples of the incinerator wastewater streams. Only chlorobenzene and toluene were detected in one or more samples of the Kiln ash.

It appeared to us (Wil and I) that of the four HC's, the total amount (lb/d) of acrylonitrile observed in the effluent wastewater streams may be more than that in the influent stream (process sewer wastewater), and therefore, may prove to be a problem; the rest of the compounds would probably total less than what's in the influent, and therefore could be reasoned not to be contributed by the actual waste incineration process. This would be confirmed upon performing a mass balance on the incinerator streams, which would be done by Wil in the near future.

Of the HC's detected in the kiln ash samples (total four individual samples) chlorobenzene (1,120 ppb) was detected once, and toluene was detected in three samples at concentrations 260 ppb to 1,320 ppb.

The absolute concentration of these HC's are all less than or very close to 1 ppm levels. Therefore, I do not believe you should have problems in successfully delisting the incinerator (Comment: EPA, in past, has approved delisting petitions for facilities that showed up to 5-10 ppm concentration of HC's).

Analytical Data for Samples Collected During March 13 EPA Visits

Ed Doerflein and I discussed the HC's analytical data generated on the samples from various groundwater monitoring wells around the three sites, #1 and 2 Landfills (LF), and EP area. None of the requested HC's, except formaldehyde, were detected at concentrations >10 ppb in the groundwater monitoring wells; as you are aware, there are problems with the current analytical method for formaldehyde. The supernate samples from #1 and 2 LF showed respectively 175 mg/L and 46 mg/L of methanol, and the supernate and the groundwater underdrain samples of #2 LF showed the presence of toluene respectively at 6.4 and 2.2 mg/L. HC's, such as benzene, chlorobenzene, chloroform, methyl chloride, MEK and xylene(s) were detected, but at concentrations much lower than 1 mg/L. Priority pollutants, ethyl benzene and phenol were observed in the samples of #1 LF supernate, #2 LF supernate and #2 LF underdrain, but all at concentrations less than 0.02 mg/L.

The concern in terms of EPA scrutiny, I believe, may be the presence of toluene and chlorobenzene in the groundwater underdrain samples (that underdrain which is below the clay liner).

Statistical Comparison per 40 CFR 265.93 (b)

Several reasons related to why the student's t-test previously applied at Sistersville and the methods for calculations of alternative tests were discussed with Ed Doerflein prior to the plant visit.

CMA and Dr. R. Lewis of R&D recently have brought forth better tests that change the way data now should be looked at. The calculations performed by Ed for first semi-annual 1983 monitoring data as per these different alternative tests were evaluated during the meeting. My thoughts based on this evaluation are:

Of the three monitored facilities, the EP-area continued to trigger the statistical comparison, however. The #1 and #2 LF did not trigger the parameters TOC and specific conductance indicating that these parameters were experiencing false positives. While pH and TOH did trigger, the pH values are on acidic oxide (not basic, as one would expect because the LF's contain basic wastes) and the TOH values are all mostly below 100 ppb (quite low). The low pH may be attributed to a general acidic environment at Sistersville and the triggering of TOH at close to 100 ppb level may be largely from analytical variability. Note also that the analysis of the samples collected during the recent EPA visit did not show presence of HC's in the well samples around the three facilities.

Thus, it appears that for the two landfill sites, technical arguments could be developed which suggest no significant contamination at the sites, and therefore, no particular need for elaborate Groundwater Quality Assessment Plans (GWQAP). The existing GWQAP may be revised and modified to require statistical comparison with more appropriate tests and also possibly more frequent monitoring of the wells for indicator parameters. The same strategy may be applicable to the EP-Area also because no HC's were observed in the two wells, recently sampled during the EPA visit.

We should meet again along with anyone else involved from Engineering, to discuss these alternatives as well as to further defining the proper approach to the groundwater monitoring program at Sistersville.

EP-North-40 Area: Site Investigation

I met with Bob Newberger to discuss the probable site investigation of the subject area. Bob showed me the site and provided some general information about the site. Because there are chemical-containing drums buried at the site, I am somewhat concerned about drilling through the site. I have asked Bob to find as much information as he can about the type of materials that were disposed off in drums at the site, so as to guess the possibility of violent chemical reactions occurring during the drilling operation.

An alternative to drilling (coring) would be to excavate with a back-hoe using caution. Much more representative samples can be obtained of such a site with the latter as compared to a two-inch coring. Problem working with back-hoe as pointed out by Bob would be that big size holes would be created in sampling down to 10-15 feet, however, we may be able to fill up these holes with the excavated material and reasonably compact the fill by running the back-hoe over it. The advantages of working with a back-hoe would be increased personnel safety, more representative samples obtained, and lesser time required to complete the job. I presume a back-hoe is available at the plant.

I have estimated the cost of conducting this site investigation to be approximately $8500, roughly broken down as:

$1000	Analytical (PCB's only; the Hazardous waste characteristics -- ignitability, corrosivity reactivity, and EP toxicity -- would be determined by the plant lab)
$3500	Sampling and related preparation
$2500	Project planning, data evaluation and reporting
$1000	Safety and health support
$ 500	Contingencies
$8500	Total Estimated Cost

If you are interested in locating and estimating the number of drums that may be buried at the site, remote sensing equipment such as a magnetometer may be used. The estimated cost does not include such investigation.

S. I. Shah